<u>Syllabus</u>

ISE101: Implementing & Troubleshooting Operating Systems Technology

Credit Hours: 4
Prerequisites: ISE100

Course Description

This course is designed to prepare students for CompTIA A+ Essentials Certification examination (220-701). Topics include operating system fundamentals; operating system architecture; comparison of operating systems; the boot process; installing, configuring, supporting, and upgrading operating systems; diagnosing and troubleshooting operating systems, and file systems. Students will also be introduced to networking, hard drive support, and Internet concepts and configurations as related to operating systems. At the conclusion of the course students will sit for the CompTIA A+ Essentials examination.

Instructor Contact Information

Instructor Name	Gerard Arthus
Instructor Email	garthus801@gmail.com
Instructor Phone	Home 574-855-1617 Cell 631-335-5250

Course Length

The college evaluates each course in terms of quarter hours of credit. One unit of credit is usually equivalent to a minimum of ten academic hours of lecture and examination, twenty hours of skill development, or thirty hours of internship, or a combination of the three. An academic instructional hour is fifty minutes.

This class will meet for the equivalent of a minimum of five (5) instructional hours per week for eleven (11) weeks or as otherwise scheduled by the college and at least in conformance with this minimum and the *Syllabus*. As specified by the Method of Instruction section of this syllabus, the instructor will ensure that the total class sessions presented consist of a minimum of 33 direct faculty instruction hours and a maximum of 22 appropriate classroom activity hours.

All course offerings require outside participation time, which is approximately two hours per lecture instructional hour and/or one hour per skill development instructional hour, depending on the background, interest, abilities, and motivation of the individual student.

Course Objectives

By the end of this course, you should be able to:
1. Define the functions of an operating system and describe the evolution of microcomputer operating systems.
2. Describe the job roles and responsibilities in a technical service organization.
3. Describe the 'service' process and best practices for performing service in a shop and in the field.
4. Describe the planning steps necessary to install Windows.
5. Install and configure Windows Vista, Windows XP and Windows 2000.
6. Maintain, backup and manage Windows.
7. Describe and use the major Windows Utilities and Tools used to optimize Windows installations.
8. Describe and use the Windows Vista and Windows 2000/XP tools to solve startup problems system lockups and I/O device errors.
9. Describe the procedure used to diagnose problems caused by hardware and applications programs.
10. Successfully diagnose and troubleshoot both hardware problems and problems caused by applications programs.
11. Describe the various methods of connecting microcomputers to a network and the Internet.
12. Describe the Tools and Utilities used to support and troubleshoot networks.
13. Successfully diagnose and troubleshoot network and Internet connectivity issues.

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14. Describe and employ best security practices and describe the process used to deal with malicious software.

Gradebook

A student's performance in this course will be evaluated using a variety of factors listed below. Instructors must use a minimum of three (**homework, tests, and a final exam are required**), and it is recommended that instructors use all five areas in your evaluation.

The exact weight to be given to any particular area is determined by the instructor and will normally fall within the ranges listed below.

Area	Percentage for this Course	Suggested Range
Final Exam	25%	20 – 25%
Tests	40%	20 – 40%
Homework	15%	10 – 15%
Project/Research Paper	10%	20 – 25%
Class Participation	10%	10 – 15%
Total	**100%**	

Letter Grade	Points	Explanation
A	94-100	Excellent
B	84-93	Above Average
C	74-83	Average
D	64-73	Below Average
F	63 & Below	Failure

Textbook & Instructional Material

National College A+ Bundle: ISBN 9781133637844. This bundle contains:

A+ Guide to Software: Managing, Maintaining and Troubleshooting: Fifth Edition, Jean   Andrews, Course Technology – Cengage Learning, 2010, ISBN: 9781435487376

Certificate: Prometric A+ Exam, ISBN: 9780619212575

Supplement: Supporting Windows 7, ISBN: 9781111317072

LabSim 220-701 A+ Essentials (2009), TestOut Corporation, ISBN: 9781935080350

The instructor might utilize additional instructional materials as provided by the publisher.

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Course Outline

Week 1	
Topics	Introducing Operating Systems
Material Covered	Chapter 1
In Class Activities	Do all hands-on projects in this week's chapter.
Homework	Do the Quiz and Discussion Forum posted on Web-Site for this week.

Week 2	
Topics	Working with People in a Technical World
Material Covered	Chapter 2
In Class Activities	Do all hands-on projects in this week's chapter.
Homework	Do the Quiz and Discussion Forum posted on Web-Site for this week.

Week 3	
Topics	Installing Windows
Material Covered	Chapter 3
In Class Activities	Do all hands-on projects in this week's chapter.
Homework	Do the Quiz and Discussion Forum posted on Web-Site for this week.

Week 4	
Topics	Maintaining Windows
Material Covered	Chapter 4
In Class Activities	Do all hands-on projects in this week's chapter.
Homework	Do the Quiz and Discussion Forum posted on Web-Site for this week.

Week 5	
Topics	Optimizing Windows
Material Covered	Chapter 5
In Class Activities	Do all hands-on projects in this week's chapter.
Homework	Do the Quiz and Discussion Forum posted on Web-Site for this week.

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Week 6	
Topics	Tools for Solving Windows Problems Fixing Windows Problems
Material Covered	Chapter 6 Chapter 7
In Class Activities	Do all hands-on projects in this week's chapter.
Homework	Do the Quiz and Discussion Forum posted on Web-Site for this week.

Week 7	
Topics	Networking Essentials
Material Covered	Chapter 8
In Class Activities	Do all hands-on projects in this week's chapter.
Homework	Do the Quiz and Discussion Forum posted on Web-Site for this week.

Week 8	
Topics	Networking Practices
Material Covered	Chapter 9
In Class Activities	Do all hands-on projects in this week's chapter.
Homework	Do the Quiz and Discussion Forum posted on Web-Site for this week.

Week 9	
Topics	Security Essentials
Material Covered	Chapter 10
In Class Activities	Do all hands-on projects in this week's chapter.
Homework	Do the Quiz and Discussion Forum posted on Web-Site for this week.

Week 10	
Topics	Security Practices
Material Covered	Chapter 11
In Class Activities	Do all hands-on projects in this week's chapter.
Homework	Do the Quiz and Discussion Forum posted on Web-Site for this week.

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Week 11	
Final	**In-Class Final Exam**

During terms that include less than 11 weeks, instructional time will be changed to accommodate all materials, course research, etc.

Method of Instruction

Instructional techniques must be appropriate and at a collegiate level, to the specific goals and objectives cited above. Students and instructors must have a clear understanding of the goals and time requirements of this course, the nature of the course context, and the methods of evaluation.

The course has two distinct but related instructional phases. The first component constitutes a minimum of 33 direct faculty instruction hours. This component is the lecture series and provides instruction in theory, principles or practices of the course. The second component constitutes a maximum of 22 appropriate classroom activity hours. This component is the skill development phase of the course and provides students the opportunity to apply knowledge gained in the lecture series. Method of Instruction must fulfill the intended learner outcomes and competencies stated in the course goals and objectives and are appropriate to the capabilities of the students. For career oriented courses, the instructor must demonstrate that an effective relationship exists between curricular content and current practices in the field.

Effective instruction depends largely upon the maintenance of an environment conducive to study and learning. For this reason, the instructor must provide for his/her students a learning environment in which scholarly and creative achievement is encouraged in both the lecture and skills development component. During terms that include less than eleven (11) weeks, instructional time will be changed to accommodate all materials, resources, research activities, etc.

Additional Class Comments

Go to http://www.openeducation.org/moodle to use the Web-Assisted site for this course. Quizzes and discussion forums will be completed on-line at this site.